

WO 01-64154

WO 01 64,154 A1

Job No.: 5000-86174

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Translated from German by the Ralph McElroy Translation Company
910 West Avenue, Austin, Texas 78701 USA

INTERNATIONAL PATENT OFFICE
WORLD ORGANIZATION FOR INTELLECTUAL PROPERTY
 International patent published on the basis of the Patent Cooperation Treaty (PCT)
INTERNATIONAL PUBLICATION NO. WO 01/64154 A1

International Patent Classification ⁷ :	A 61 F 13/15 A 61 L 15/42 15/00
International Filing No.:	PCT/EP01/02386
International Filing Date:	March 2, 2001
International Publication Date:	September 7, 2001
Language of the European Application:	German
Language of the Publication:	German
Priority	
Date:	March 2, 2000
Country:	Germany
No.:	100 10 269.7
Date:	March 2, 2000
Country:	Germany
No.:	100 10 268.9
Designated States (national):	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
Designated States (regional):	ARIPO Patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

European Patent (AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT,
LU, MC, NL, PT, SE, TR), OAPI
Patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GW, ML, MR, NE, SN,
TD, TG)

SINGLE-USE ABSORBENT SANITARY ARTICLE

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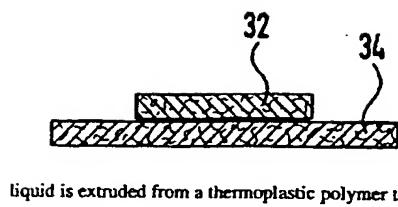
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Published with the International Search Report and before expiration of the period
permitted for amendments to the claims. Will be republished if amendments are submitted.

For an explanation of the two-letter code and the other abbreviations please refer to the
explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular
edition of the PCT gazette.



(57) Abstract: The invention relates to a single-use absorbent sanitary article, especially diapers, sanitary napkins, and incontinence articles. The inventive sanitary article comprises an absorbent body (30) that consists of at least two layers, one layer (32) for absorbing, distributing and temporarily storing liquid and facing the body when used, and one storage layer (34) on the side facing away from the body which has a content of at least 50 % of superabsorbent polymer material. The inventive layer (32) for absorbing, distributing and temporarily storing liquid is extruded from a thermoplastic polymer to which a blowing agent is added.

Claims

1. A single-use absorbent sanitary article, in particular diapers, sanitary napkins, and incontinence pads, with an absorbent body (30) comprising a minimum of two layers, one layer (32) which, when used, faces the body and serves to absorb, distribute and temporarily store fluid, and one storage layer (34) provided on the side that faces away from the body with a content of a minimum of 50 wt% of superabsorbent polymer materials, characterized by the fact that the layer (32) for absorbing, distributing, and temporarily storing the fluid is extruded from a thermoplastic polymer to which a blowing agent has been added.
2. The sanitary article according to Claim 1, characterized by the fact that the layer (32) for absorbing, distributing and temporarily storing the fluid has a total pore volume of a minimum of 30 mL.
3. The sanitary article according to either one of Claims 1 and 2, characterized by the fact that the layer (32) for absorbing, distributing and temporarily storing the fluid is substantially free of superabsorbent polymer materials.
4. The sanitary article according to one of Claims 1, 2, or 3, characterized by the fact that the thermoplastic polymer comprises a polyolefin, in particular polypropylene and/or polyethylene.
5. The sanitary article according to one or several of the preceding claims, characterized by the fact that the degree of expansion is greater than 50%.
6. The sanitary article according to Claim 5, characterized by the fact that the degree of expansion is greater than 100%
7. The sanitary article according to one or several of the preceding claims, characterized by the fact that the layer (32) for absorbing, distributing and temporarily storing the fluid comprises 3-30 wt%, in particular 10-20 wt%, of fibers as adjuvants.
8. The sanitary article according to Claim 7, characterized by the fact that the fibers are polyester fibers.

9. The sanitary article according to one or several of the preceding claims, characterized by the fact that the weight per unit area of the layer (32) for absorbing, distributing and temporarily storing the fluid varies in the longitudinal and/or transverse direction.

10. The sanitary article according to one or several of the preceding claims, characterized by the fact that the width of the layer (32) for absorbing, distributing and temporarily storing the fluid varies across its longitudinal direction.

11. The sanitary article according to one or several of the preceding claims, characterized by the fact that on the side of the layer (32) for absorbing, distributing and temporarily storing the fluid that faces away from the body when the article is used, a storage layer (34) is provided, which storage layer has been coextruded with the first layer.

12. A method for manufacturing a layer (32) for absorbing, distributing and temporarily storing the fluid in the course of the manufacture of a sanitary article according to one or several of the preceding Claims 1 through 11, which method comprises the following processing steps:

- introduction of a thermoplastic polymer in an extrusion device,
- melting the thermoplastic polymer material,
- introduction of a blowing agent under excess pressure,
- extrusion of the mixture, with the blowing agent leading to an expansion of the thermoplastic polymer as the pressure is being reduced.

13. The method according to Claim 12, characterized by the fact that the blowing agent used is CO₂.

14. The method according to Claim 12 or 13, characterized by the fact that the thermoplastic polymer is melted at temperatures in a range from 80 to 200 °C.

15. The method according to Claim 12, 13, or 14, characterized by the fact that adjuvants in the form of fibers are introduced into the extrusion device.

16. The method according to any one of Claims 12 through 15, characterized by the fact that the adjuvant that is introduced into the extrusion device is a surface-active substance.

17. The method according to any one of Claims 12 through 16, characterized by the fact that during the extrusion, an extrusion cross section is varied.

18. The method according to Claim 17, characterized by the fact that the extrusion cross section is varied in an oscillating manner.

19. The method according to Claims 12 through 18, characterized by the fact that the method is integrated into a manufacturing process for sanitary articles and that in the course of it, the layer (32) for absorbing, distributing and temporarily storing the fluid is extruded directly within a high-speed manufacturing machine for sanitary articles.

20. The method according to Claim 19, characterized by the fact that the layer (32) for absorbing, distributing and temporarily storing the fluid and the storage layer are formed by coextrusion of the layers inside the high-speed manufacturing machine.